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Proactive Conversation, 3D Printing, and an Old Nintendo

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Proactive Conservation, 3D Printing, and an Old Super Nintendo

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Abstract

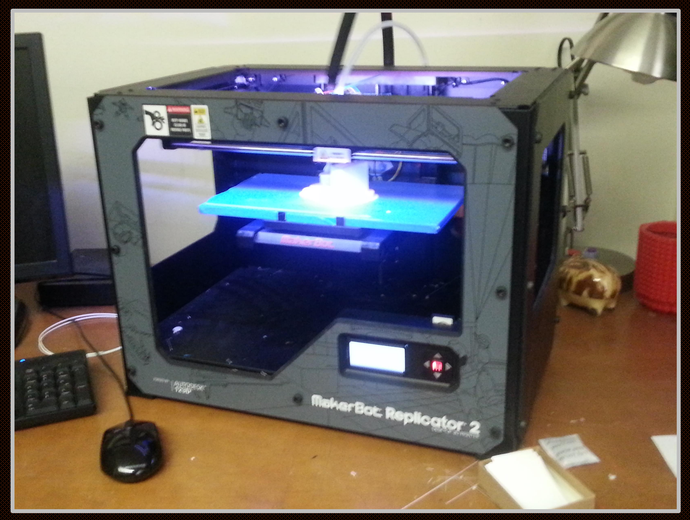
One hundred years from now, it would be a true historical treat to be able to use 20th and 21st century digital entertainment by showcasing video game consoles in mint condition for interactive, educational, play. Arguably, it would be more enlightening and informative for future audiences to be able to physically engage with the electronic artifacts instead of simply observing them behind glass. With the use of 3D technology, components of video game systems can be preserved, and then printed as needed for repairs. It will help keep them functional for future researchers, educators, and enthusiasts.

Video Games and Human Expression

Video games are a major and active part of our current material culture, from the arcade machines that peaked in sales in 1984 (Donovan 2010: 98), to current Oculus Rift virtual reality headset.

The first consoles were limited to a few pixels and the memory on the gaming cartridges were restrictive. Game developers had to use what they had in order to compel a player towards active engagement, often without a backstory, tutorial or preamble. Environments also had to set a tone for the player to react to, such as the presence of an enemy, 'checkpoints' for safe places, and boss battles.

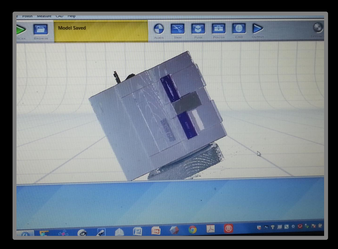
Early game developers chose the appropriate visual and audio output to correspond with player input based on a number of things. Much had to do with understanding cultural norms at the time, using color schemes and sounds to engage the player accordingly, and having knowledge of what makes us afraid, excited, happy, laugh, disappointed, or sad. While playing these same games on an emulator will preserve the game itself, they "can never really take the place of the machine [experience]" (Wu N.A.: 9). Being able to play and experience video games, with limited availability to realism graphics and controller input, is essential to a future researcher.



3D Scanning and Printing

3D printing, in its most simplistic explanation, is the scanning and printing of an object in a three dimensional aspect, and virtual curation is "the creation of intangible digital models from tangible artifacts" (Means 2013: 1). The range capability of 3D printers is vast; there are low resolution scanners and printers that make simple geometric shapes in basic materials, and high resolution top-tier machines capable of printing jewelry and architectural sculptures from more tactile material, such as metal. There are printers also capable of backwards printing in which a chunk or block of a desired material is chiseled and sculpted into the object's likeness.

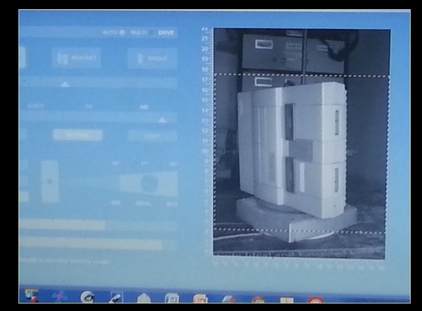
3D printing and archaeological conservation are becoming more and more intertwined as the benefits of physical interaction with artifacts grows more apparent. It is easier to engage an educational audience, and "attract the attention of people of all ages who desire a tactile connection to the past" (Means 2013: 10).



In order for a video game console to continue to function 100 years from now, replacement parts for repair would be necessary, especially if the console is to be played using the technology of that time period. 3D scanning and museum-quality cataloguing could help towards this end goal.

Conclusion

The technology to digitally preserve each individual piece of a gaming system in its original material and formatting is not available in the necessary resolution to rebuild printing pieces The large variety of forms which games as expressed also "pose a significant new [challenge] concerning how to preserve and keep [video games] playable" (Guttenbrunner et al. 2010: 65). However, 3D printing technology continues to develop at a rapid rate and there are machines capable of printing in specific metals that can conduct electricity. This lends to a sense of optimism that in the near future, 3D printing technology will advance to a point that the cost in producing them will decrease, printers will become more affordable, and will be more accessible for museum conservation facilities to own.



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Acknowledgements

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